

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT



To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/JP2005/017568 ✓

International filing date (day/month/year)
16.09.2005

Priority date (day/month/year)
17.09.2004

International Patent Classification (IPC) or both national classification and IPC
H04L1/08, H04L12/56, H04J11/00, H04B7/02

Applicant
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD. ✓

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office - P.B. 5818 Patentlaan 2
NL-2280 HV Rijswijk - Pays Bas
Tel. +31 70 340 - 2040 Tx: 31 651 epo nl
Fax: +31 70 340 - 3016

Authorized Officer

Sieben, S

Telephone No. +31 70 340-1009



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

10/569491
International application No.
PCT/JP2005/017568

IP20 Rec'd PCT/JP 27 FEB 2006

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/JP2005/017568

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-25
	No: Claims	NONE
Inventive step (IS)	Yes: Claims	NONE
	No: Claims	1-25
Industrial applicability (IA)	Yes: Claims	1-25
	No: Claims	NONE

2. Citations and explanations

see separate sheet

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/JP2005/017568

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

Reference is made to the following documents:

D1: GB-A-1 576 347 (ELECTRICITY COUNCIL) 8 October 1980 (1980-10-08)

D2: GB-A-2 237 706 (RACAL RESEARCH LIMITED) 8 May 1991 (1991-05-08)

D3: US 2001/024434 A1 (AYYAGARI ARUN ET AL) 27 September 2001 (2001-09-27)

1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1, 21, 23 and 24 does not involve an inventive step in the sense of Article 33(3) PCT.

1.1 The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses (the references in parentheses applying to this document) a wireless transmission system in which a plurality of wireless stations (fig. 2: repeater stations 40, 41, 42) each transmit a signal to a receiving station (fig. 2: base station 46), wherein a path diversity system is formed by a transmitter-side wireless station (fig. 2: mobile transmitter 45), a multi-path channel (inherent and inevitable in every wireless transmission system) and the receiving station (fig. 2: base station 46), the wireless transmission system comprising:

a transmission timing control section for determining a transmission start timing, at which to start the signal transmission (page 4, lines 20-23; fig. 2: delay unit 47);

a transmitting section for transmitting the signal at the transmission start timing determined by the transmission timing control section (page 4, lines 20-23; fig. 2: transmitter 44); and

a receiving section provided in the receiving station (fig. 2: implicit feature of base station 46) for receiving the transmitted signal,

wherein the predetermined delay amount is determined so that: signals are received by the receiving section at a plurality of signal-receiving timings (page 3, lines 43-46); the number of signal-receiving timings is less than or equal to a predetermined maximum number of effective branches (e.g. maximum number of repeaters); a difference between the signal-receiving timings is greater than or equal to a predetermined delay resolution (page 2, lines 3-12); and a difference between a maximum value and a minimum value

of the signal-receiving timing is less than or equal to a predetermined maximum delay (page 2, lines 13-17).

- 1.2 The subject-matter of claim 1 therefore differs from this known system in that the transmission start timing is determined to be a timing obtained by delaying a reference timing to be a reference for the signal transmission by a predetermined delay amount.
- 1.3 The problem to be solved by the present invention may therefore be regarded as how to determine the absolute value of the start timing.
- 1.4 The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons.

The feature that the transmission start timing is determined by delaying a reference timing is merely one of several straightforward possibilities from which the skilled person would select, in accordance with the circumstances of the system, e.g. synchronized or not, without the exercise of inventive skill, in order to solve the problem posed.

- 1.5 The same reasoning applies, *mutatis mutandis*, to the subject-matter of the corresponding independent claims 21, 23 and 24, which therefore are also considered not inventive.
2. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 22 and 25 does not involve an inventive step in the sense of Article 33(3) PCT.
 - 2.1 The document D1 is regarded as being the closest prior art to the subject-matter of claim 22, and, in addition to the features of claim 1 as stated above, further discloses (the references in parentheses applying to this document; see also passages cited for claim 1) that the transmitting station comprises a delay amount selection section for selecting, from among a plurality of predetermined delay amounts, a delay amount to be given to a signal transmitted to each wireless station (page 3, lines 41-43 and fig. 1).

Therefore, also claim 22 is considered not inventive.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/JP2005/017568

- 2.2 The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding independent claim 25, which therefore is also considered not inventive.
3. Dependent claims 2-20 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and inventive step, see documents D1, D2 and D3 and the corresponding passages cited in the search report.